

I am severely hard of hearing. For viewing television and video, I must rely on my residual hearing, modest speechreading skills, and captioning. Of the three, captioning has long been the most important to me. Without it, I cannot understand enough speech to make sense of what is being said. Consequently, if a TV show, movie, or other production is not captioned, I no longer try to watch it.

Availability of TV and video captioning has improved greatly over the past decade. Ten years ago, shortly after manufacturers began producing TVs with built-in captioning decoder chips, I bought a new TV and began watching again for the first time in over 20 years. The decoder chip, along with the steadily increasing availability of captioned TV programs and videos, has increased the degree to which I have been able to remain within the mainstream of American life despite my progressive hearing loss. I very much appreciate the opportunity for inclusion that captioning allows.

Still, we have a very long way to go before it is fully recognized that attention to the availability and quality of captioning is as important as attention to the audio/visual aspects of a TV or video production. Here are a few of the areas I've noticed over the years where captioning needs to be improved if television is to become fully accessible:

- **Emergency Information:** All TV stations need to provide live, real-time captioning for emergency news and weather broadcasts. The pre-recorded captions offered by many stations cannot keep pace with rapidly changing emergency conditions. The result is a failure to provide to millions of deaf and severely hard of hearing viewers the same critical up-to-the-minute information that is available to all other viewers.
- **Captions vs. Emergency Crawls:** Federal law requires that closed captions and the crawls announcing emergency conditions must not interfere with each other. Unfortunately, the TV stations in my viewing area are not in compliance. Their crawls consistently run beneath the captions making it hard to read the crawls. Sometimes it is hard even to know that a crawl is there -- especially when I can neither see the crawl nor hear the audible alert that is meant to announce the presence of the emergency message.

This problem is compounded by lack of a direct access caption button on the TV's remote control. When I realize (often belatedly) that there is an emergency crawl beneath the captions I'm watching, I must then fumble with a multi-layered menu to reach the caption-off option. Often, by the time I get the captions turned off, it is too late. The crawl has ended. I have lost the dialog of the show I was watching but have gained no useful information about the emergency.

Each time the crawl reappears I must go through the same process. Until I have succeeded in turning off the captions quickly enough to be able read the full message on the crawl, I have no way of knowing for sure whether the crawl contains new information or is merely a repeat of previous information that I've already seen. Trying to watch TV when there is a storm cell moving through my area can be very frustrating.

- **Menu Access to Captions:** Access is often awkward, requiring navigation through multiple layers of menu options before reaching the caption option. A direct access caption button on the remote is the obvious solution. Although this is a matter to be taken up with TV manufacturers, not TV stations, still, it

complicates the problem of trying to read emergency crawls when they are hidden behind the closed captions.

- **Audible Emergency Signal:** The audible signals that are intended to warn viewers of an emergency message seem to consist of a single high-frequency tone or series of beeps. The decision to use a single high-frequency sound for this purpose ignores the fact that most people who are hard of hearing can hear low frequencies better than they can hear high frequencies. Emergency signals need to use a siren or multiple tones or beeps at very-low, low, mid-range, and high frequencies. Use of a wide range of frequencies would increase the likelihood that more hard-of-hearing people would be able to hear the alert (and thus turn to look for the text message), regardless of which frequency ranges were most affected by their hearing losses.
- **Caption Accuracy:** Accuracy varies from excellent to undecipherable gibberish. Although some of the problem may well be due to hurried or inexperienced captioners, I suspect some of it may also be related to faults in the transmission or reception of the TV signal.
- **Caption Timing:** Even when captions are 100% accurate, poor timing can make them unusable. The captions need to be shown almost simultaneously with the speaking of the words. The greater the delay, the more difficult it becomes to use captions. This is especially true when the dialog is rapid or complex and there are multiple speakers. For instance, in debates on the PBS News Hour, there is often a delay of several seconds between the audio/visual portion of the program and the captions. As a result, I often find myself reading the captions of one speaker while seeing and hearing the face and voice of the next speaker. Of course, this makes it impossible to use residual hearing and speechreading, along with the captions, to improve speech comprehension. It also makes it very difficult to follow the ideas being presented and to keep track of who said what.
- **Caption Placement:** Placement is often a problem. There is, as yet, no technology that will allow us to shrink the televised image slightly to provide a blank space for captions beneath the picture. At least for now, we must make do with captions that cover part (often a significant part) of the image on the screen. Placement at the bottom of the picture seems to work best -- most of the time. When captions are moved to the top, they often cover the speakers' faces or other significant elements of the picture. Covering the speakers' faces is particularly problematic because it makes it impossible to use speechreading to aid speech comprehension. Captions work well as additions to, but not as replacements for, essential elements of the picture.
- **Caption Appearance:** The problem of placement is compounded by the fact that the viewer has no option for altering the appearance of the captions. If viewers could adjust the typeface, type size, and background of the captions, the matter of placement might become less of a problem. For instance, in some situations viewers might prefer to use a translucent background that would dim, but not completely block, the view of the images behind the captions.
- **Captions Omitted on First Showing:** Sometimes programs are captioned, but the network omits the captions, even on the first showing. For instance, one such program often shown without captions on the FOX network ends with the spoken words, "Closed captioning brought to you by..." followed by a commercial (which is also shown without captions). I wonder if those sponsors know that FOX has not been delivering the service -- or the audience -- they paid for.

- **Captions Omitted on Subsequent Showings:** Many programs are captioned on first showing but not captioned for subsequent showings. Although I've seen this on most networks at one time or another, the FOX network seems to be the most common offender.
- **Interrupted Captions:** Sometimes shows will start out captioned but at some point, well into the show (usually after a commercial break), the captions disappear and do not return. This is extremely frustrating and, of course, during evening viewing hours there is usually no way to call in to the TV station to tell them that something has gone wrong.
- **Sticky Captions:** When a captioned program or commercial is followed by something that is not captioned, the final lines of captioning often remain frozen on the screen for several seconds afterwards. They often remain 'stuck' to the screen even when I am changing channels. It's as though the captions remain on screen until something is transmitted that pushes them off.
- **Use of "CC" in TV Schedules:** Incomplete or inaccurate captioning information in TV schedules is a very common problem. Despite what I am sure are the best intentions of the publisher, it seems that "CC" usually means maybe the show will be captioned -- or, then again, maybe it won't.
- **Public Service Announcements:** PSAs usually are not captioned. I'm not sure exactly how PSA producers define the word "public" but it seems evident that their definition of the word does not include people who are deaf or hard of hearing.
- **Political Campaign Advertising:** Lack of captioning in political campaigns is very common. The presence or absence of captioning in a campaign ad is a very important part of the message conveyed by the ad.

People who are hard of hearing or deaf represent a significant part of the U.S. population. The National Center for Health Statistics 2001 Health Interview Survey estimated that over 35 million adults (nearly 1 out of every 6 adults) in the civilian, non-institutionalized population had experienced some degree of hearing loss. Nearly 7 million of those adults are severely hard of hearing or deaf. See: www.cdc.gov/nchs/data/series/sr_10/sr10_218.pdf.

We are consumers. We are voters. We number in the tens of millions -- and our share of the population is expected to grow as the ear-assaulting noise pollution of modern life and age-related hearing loss among baby boomers continue to add to our numbers. It's time to offer us the same consideration, the same respect, the same access that is routinely granted to all others.

Thank you for the opportunity to offer my comments on this very important issue.